

North Umpqua Hydropower Mitigation Fund Project Nomination Form

Project Name: Harrington Creek Instream Restoration

Total Mitigation Funds Requested For this Fiscal Year: \$ 101,500

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Type of Project (mark one that applies):

Wetland/stillwater habitat ☐

Terrestrial species connectivity ☐

Erosion control ☐

Vegetation management ☒

Riparian/aquatic species connectivity ☒

Aquatic Habitat ☒

Explanation of why this project is time critical:

Harrington Creek has been heavily impacted by previous land use. It is currently devoid of complex pools, spawning gravel, and disconnected from 10 side channels in the restoration reach (Figure 1). The Rock Creek watershed has the greatest diversity of native fish species in the Umpqua basin, providing spawning and rearing habitat for Oregon Coast coho, spring Chinook, winter and summer steelhead, sea run and resident cutthroat trout, and Pacific lamprey. The project will benefit nearly all of those species by increasing habitat complexity, recruiting spawning gravels, providing refuge habitat, and increasing the diversity of native plants in the riparian area.

Description of hydropower project caused impacts that project is addressing (aquatic, terrestrial and natural resource related including wetland, aquatic & terrestrial connectivity, vegetation management, soil loss/erosion, etc.). Be specific how/what the project mitigates:

This project addresses multiple hydropower mitigation impacts both aquatic and terrestrial:

Aquatic connectivity – reconnection of historic side channels

Aquatic habitat ecology – instream restoration in 0.6 miles of Harrington Creek, as well as 10 side channels

Vegetation management – the removal of noxious weeds and planting on native species

Point of hydropower induced impact:

Legal: T 26 S R 03 E Sect. 20

6th field subwatershed:
Deception Creek- North Umpqua River5th field watershed: Middle North Umpqua River

Administrative Unit: Forest Service

Location of proposed mitigation project:

Legal: T 25 S R 02 W Sect. 9

6th field subwatershed: Lower Rock Creek5th field watershed: Rock Creek

Administrative Unit: BLM

Description of project objectives, activities, *measurable* benefits, and expected accomplishments:**Project description:**

Harrington Creek is a major tributary to Rock Creek. It provides spawning and rearing habitat for Oregon Coast coho salmon, summer and winter steelhead, cutthroat trout, and Pacific lamprey. It has been heavily impacted by land use and thus has very little large wood, pools, or spawning gravel in the reach (Figures 2 & 3). Additionally, approximately 10 side channels have been disconnected from the main channel and contain over simplified habitat (Figure 3). Side channels are critical components in the Rock Creek watershed for juvenile salmonid rearing and adult salmonid spawning. In total the project will pull 18 trees from the riparian zone into the stream channel and add 105 logs and 510 boulders to a 0.6 mile reach of Harrington Creek and ten side channels. This project has a significant monitoring component including snorkel surveys of side channels to determine fish utilization during summer and winter and extensive photopoint monitoring. Partners on the project include the Partnership for the Umpqua Rivers (PUR) and Oregon Department of Fish and Wildlife (ODFW).

Project objectives:

1. To reconnect approximately 10 side channels to Harrington Creek. The side channel entrances will be excavated to increase flow and logs and boulders will be added to the side channel and to Harrington creek to increase habitat quality and water flow into these critical areas. *Measureable benefit: Increase flows to the side channels during winter by at least two fold, and create some flow to side channels during the summer (they currently dry up). Triple the number and increase the complexity of pools in side channels. Double the amount of spawning gravel currently in side channels.*
2. To increase habitat complexity in Harrington Creek: Logs and boulders will be strategically added to Harrington Creek to create complex pools and alcoves, to capture spawning gravel, and to increase flow to side channels. *Measureable benefit: Triple the number of pools in the restoration reach and create complexity in those pools (large wood). Increase the amount of spawning gravel three to four fold in the restoration reach. Decrease the velocity of water in the reach, and increase the flows to side channels during summer months. Increase the size of summer and winter steelhead runs in Rock Creek over the long term.*
3. To eradicate noxious weeds and plant native species to increase diversity in riparian areas. Scotch broom and Himalayan blackberry will be cut and sprayed with herbicide. Native shrubs and trees will be planted in the riparian areas to increase diversity. *Measureable benefit: Cut and spray all noxious weeds in the riparian areas in the Harrington Creek project area. Plant*

1000 native shrubs and trees in the restoration reach, focusing on Big Leave Maple, Black Cottonwood, etc. to increase the diversity in the riparian areas.

Expected Accomplishments:

This project will provide habitat complexity and increased spawning gravels to 0.6 miles of Harrington Creek. Additionally, 10 side channels will be reconnected to the main channel and while increasing stream flow and habitat complexity in these side channels. Noxious weeds will be treated in riparian areas and 1000 native plants will be planted to focus on riparian species diversity. It is expected that summer and winter steelhead runs will increase significantly in Rock Creek as a result of this and other instream restoration in the watershed in the long term. Oregon Coast coho, cutthroat trout, and Pacific lamprey populations would also increase. This will increase the total amount of fish returning to the North Umpqua River and will lead to better recreational fishing opportunities. Additionally, the monitoring planned with this project will increase our understanding the effectiveness of these side channel restoration projects and the juvenile salmonid use of those habitats in the summer and winter. Rock Creek has also been designated at a "learning watershed." ROCK-ED and outdoor educational classroom is located within the watershed. This location will be used to educate the Basin's youth as to the benefit of instream and riparian restoration.

Identify any previous work completed (prior year accomplishment of multi-year project, planning, design work, etc.):

The mitigation fund has funded previous work in the Rock Creek basin on BLM lands. Approximately 0.5 miles of East Fork Rock Creek (including 5 side channels) and four side channels in the mainstem Rock Creek have had logs and boulders added for instream restoration. Additionally, two fish passage culverts (Kelly and McComas Creeks) have had engineering design work done for replacement. The mitigation fund also helped to fund LiDAR flights over the entire Rock Creek watershed. That data is now available to the public through the LiDAR consortium and is being used for monitoring and future restoration planning efforts.

On private lands, ODFW has completed approximately 6 miles of instream restoration with the mitigation tributary fund. The have added approximately 300 logs and 2000 boulders to these reaches to increase habitat diversity, collect spawning gravels, and reconnect floodplains and side channels.

Proposed budget:

<i>Activity</i>	<i>Personnel</i>	<i>Contract/Materials</i>	<i>Vehicles</i>	<i>Total</i>
Planning/NEPA	\$3000			\$ 3000
Engineering design & Contract preparation	\$3000			\$ 6000
Contract costs		\$77,500		\$ 73,000
Contract Administration	\$4500			\$ 7,500
Non-contract implementation	\$3000			
Monitoring	\$4500	\$6000		\$7500
Totals	\$18,000	\$83,500		\$ 101,500

If project is multi-year proposal, include budget table for each year of project

Identify other funding (includes appropriated funds) or confirmed, external partnerships of project

Source	Value of contribution	Description of contribution
OWEB funding (PUR)	\$ 80,000	Unsecured match
Title II funding (BLM)	\$ 86,000	Unsecured match

Proposed project schedule and timeline, including projected date of accomplishment:

Spring 2014: Finalize side designs and flag access routes.

Summer 2014: Pre-project monitoring: snorkel surveys, Photopoints, etc.

Spring 2015: Contract preparation (PUR) and contractor selection. Deliver materials to Harrington Creek.

Summer 2015: Project implementation. Monitoring: snorkel surveys, Photopoints, etc.

Summer 2016: Post project monitoring.

Project will be accomplished by September 15, 2015.

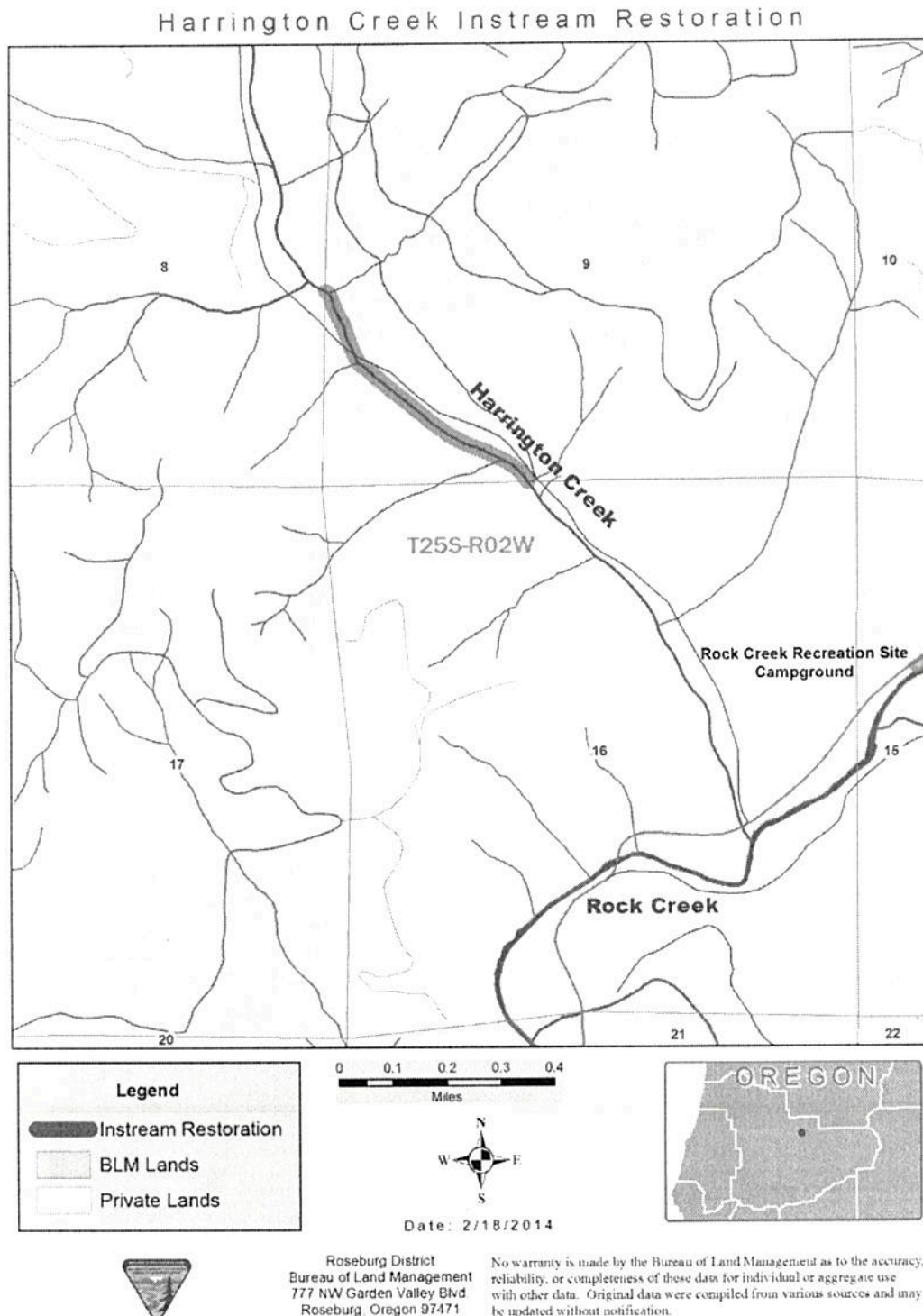


Figure 1: Project map. There will be additional work done on the private lands up and downstream of the BLM reach. Additionally, there will be a barrier culvert removed upstream of the BLM reach.

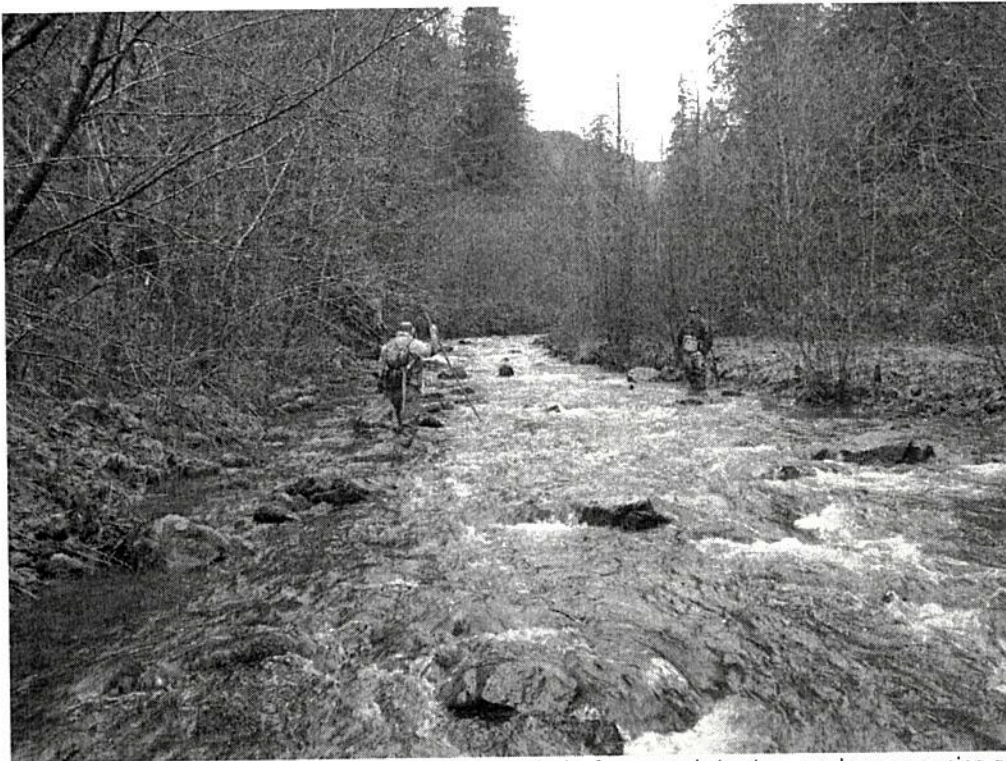


Figure 2: This is a photo of Harrington Creek at site #3. Note the lack of any wood structure, pools, or spawning gravel. This is typical of the entire reach. Note the small side channel/floodplain in the upper right of the photo.



Figure 3: A typical side channel on Harrington Creek at site #3. Note the lack of large wood, pools, and spawning gravel. There are approximately 10 side channels like this in the reach.

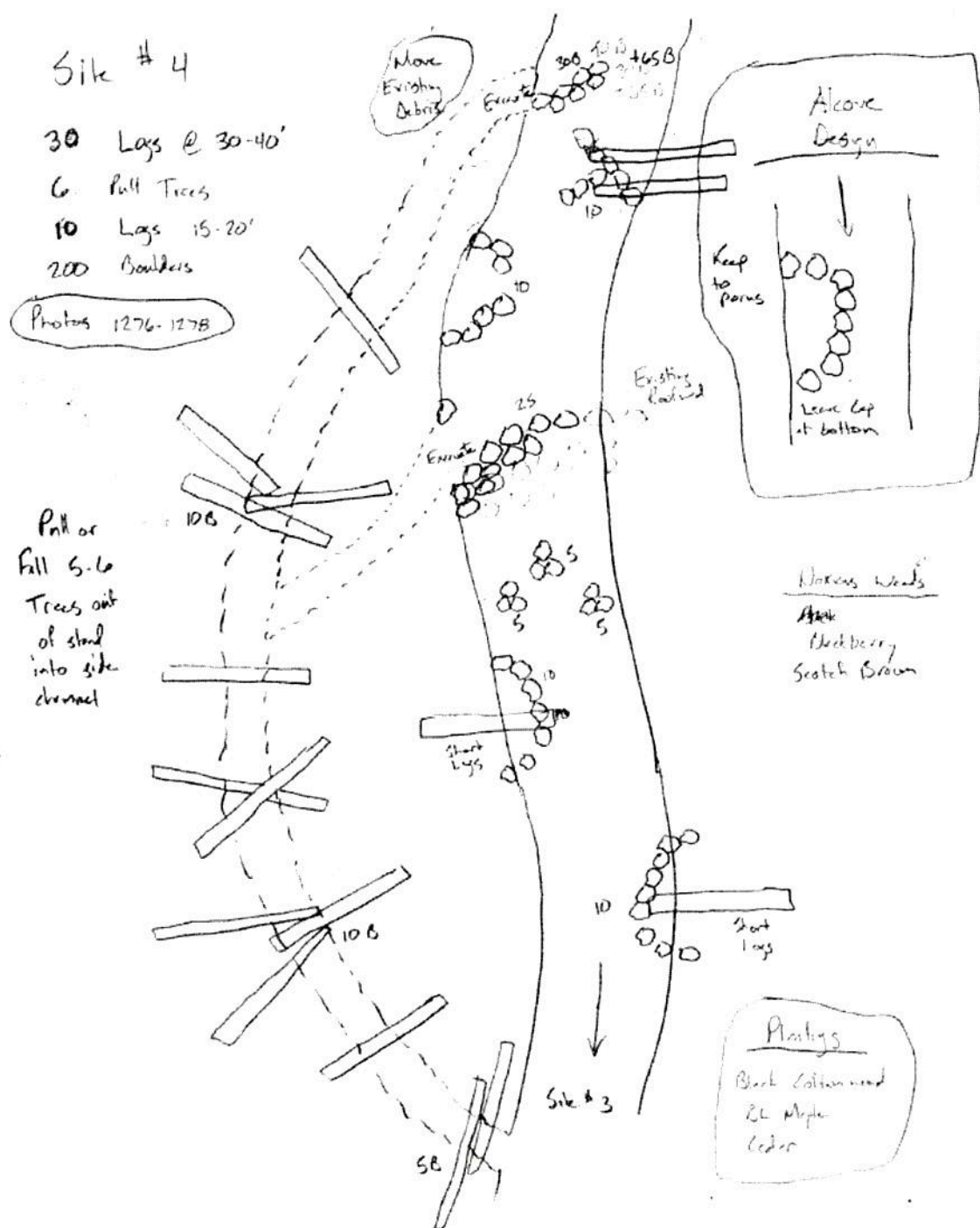


Figure 4: Site drawing of site #4. This is an example of side channel and mainstem Harrington Creek site designs. These sketches will be converted to a digital drawing in the near future.

